

SCIENTIFIC COMMUNICATION

I wish to present a paper

Title :

The measurement of Filter- and tobacco-rod hardness during smoking with the HDS 4-Hardness-Tester

Abstract (150 words)

In the last years a testing unit was developed for measuring the hardness of a cigarette or cigarette-filter during smoking. The complete smoking and test-procedure is regulated by a computer system which gives a lot of possibilities to variate the smoking and testing conditions and calculating the test results. For the mathematical description of the collapsing behaviour of a cigarette filter a so-called collapsing index was defined (HDS-index: HDS = Hardnes During Smo-king). This HDS-index is calculated from the slope of the collapsing curve and the number of puffs at a fixed penetration depth and two factors which depend on the weight of the used stamp and the total puffs of the smoked cigarette. The possibilities of this testing unit will be shown on some examples and the influence of

triacetin content  
tobacco moisture  
puff frequency  
denier per filament ( $\Delta p = \text{const.}$ )  
ventilation degree  
retained crimps ratio

will be described on the HDS-index.  
Also an example will be given for the determination of an adequate HDS-index for tobacco-rods.

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